

CONFIDENTIAL

13 September 1960

**Declass Review By
NIMA/DOD**

MEMORANDUM FOR: Chief, TISD

SUBJECT: [REDACTED]

4X Printer

1. The 4X enlarging printer, manufactured by [REDACTED] as modified, was installed in this installation on 27 August 1960. During the period 27 August through 1 September, approximately 10,000 feet of material was produced on this equipment, constituting a field test. Certain inadequacies were noted in the performance and operation of this item.

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- a. An intermittent blurring of the image, caused by lack of synchronization of negative and film transports.
- b. Extreme difficulty in loading and unloading 450 foot, 9 $\frac{1}{2}$ inch spools of material.
- c. Difficulty with the negative spindles.
- d. The multiple film guide on the negative supply side had to be removed to accommodate a full 250 foot spool of 70mm material.
- e. There was no positive locking of the negative supply and take-up spools on the existing spindles.
- f. Difficulty was encountered in precisely resetting the exposure slit over the printing material after each reloading operation.
- g. There appeared to be certain operating speeds which produced extensive vibration throughout the printer.
- h. An automatic device for maintaining proper flat belt tension is required to prevent slippage.

2. These problems were discussed with the designer, [REDACTED]. Since this particular equipment is a modified prototype, it was agreed that the performance, as indicated by the field test, was adequate in lieu of certain original limiting factors.

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3. [REDACTED] has a current contract through this Agency for the U. S. Army to produce such a printer with further modifications to improve the performance of the equipment. The undersigned has been appointed monitor for this contract. A discussion was held on 12

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25X1A September 1960 with [REDACTED] of the Army Map Service regarding this contract. It was pointed out in this discussion that the basic limiting factor of the performance of this equipment was in its original design to perform both step and repeat printing as well as continuous flow printing. There are many items of equipment on hand which will produce step and repeat printing results and it is now evident that the continuous printing mode of operation is the prime requirement for this item. Many of the complicated linkages, the vacuum supply source and the metering device are used only in the step and repeat mode and the elimination of these items from the basic design would improve the results from the printer substantially and allow for a greatly simplified design. It was proposed to [REDACTED] and [REDACTED] that we consider immediately modifying their present contract at no expense to the Government to eliminate the step and repeat printing requirement. A copy of this memorandum will be forwarded to [REDACTED] for his concurrence in this action. Any action in this direction must be taken quickly to avoid inconvenience to the contractor since certain engineering on this contract has already been completed. It is proposed that if the contractor will agree to eliminate the step and repeat printing devices that this will be done at a savings to the Government, or in lieu of this requirement to substitute an illumination source which will allow the printer to copy at a 4 diameter reduction ratio from 9 1/2 inch negative to 70mm format in the continuous mode. This action is subject to concurrence by the contractor and the user. It is proposed that the contractor be notified through the proper channels no later than 15 September 1960.

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[REDACTED]

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